U.S. Department of the Interior
Bureau of Land Management
White River Field Office
73544 Hwy 64
Meeker, CO 81641

ENVIRONMENTAL ASSESSMENT

NUMBER: CO-110-2005-041-EA

CASEFILE/PROJECT NUMBER: CO-936-2823-JM-EA98

PROJECT NAME: Boies Prescribed Fire

LEGAL DESCRIPTION: T3S R98W Sec. 8,9,16,17,19,20,29,30,31

APPLICANT: USDI, Bureau of Land Management - White River Field Office

DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES:

Background/Introduction: This project was selected and designed to restore suitable habitat character for greater sage-grouse. Also, a hazardous fuels component was built into this project to reduce the unnatural fuel loading created by a commercial wood cutting project which was conducted from 1978 through the late 1980s.

Proposed Action: BLM would initiate hazardous fuel reduction involving prescribed fire on two burn units (1389 acres) depicted on the attached map. Approximately 270 acres of unit B is located on private property which is owned by a joint partnership; Exxon Mobil Corp. 50%, Whitig Oil Corp. 10%, and Puckett Land Company 40%. All three constituents have agreed to participate in and collaborate on the development of this project. This hazardous fuel reduction project would begin in the spring of 2005. Prescribed fire treatment will be conducted by federal employees.

Broadcast burning and spot ignition will be used to reduce PJ encroachment and the fuel loading of woody species including sagebrush, serviceberry, snowberry, Utah juniper and pinyon pine. This will effectively change the vegetation from sagebrush with pinyon/juniper (PJ) encroachment community with a more mosaic of grass and forb communities intermingled within sagebrush and PJ communities. Particularly in Unit B, proposed treatment would increase the suitable extent of sage-grouse habitat by substantially reducing the PJ component in these sagebrush communities and preempting the progressive conversion of this former sagebrush disclimax to a pinyon/juniper woodland site. Hazardous fuels objectives would be met by reducing the amount of live and dead fuel accumulation resulting in a lower intensity wildfire in the event one should occur as compared to the current condition.

The target area consists of the two units intended to be burned subject to the resource objectives listed in the resource management objectives section below. The allowable area is the surrounding area where burning is not planned. Fire may be allowed in this area, under specific criteria, without being declared a wildfire. Black lining will be conducted around the perimeter of the target areas in order to reduce the chance of fire burning outside the target area. In the event that fire should spread from the target area (see map), the burn boss, holding specialist, and resource advisor will determine if suppression actions are warranted. Further criteria may be identified by the prescribed fire plan.

All prescribed fire will be conducted in accordance with the State of Colorado Smoke Management Plan and Memorandum of Understanding (MOU), and will be regulated under Colorado Department of Public Health and Environment, Air Pollution Control Division, approved open burning permits, which must be issued in advance of the fire. Simple Approach Smoke Estimation Model (SASEM, 1991) air pollutant dispersion predictions will be completed for all prescribed burn plans and reviewed by the State.

Treatment Area Description and Resource Management Objectives: This 1389 acre prescribed fire project is located approximately 40 miles southwest of Meeker Colorado, on the ridge top between Yankee Gulch and Eureka Creek. The Unit A is approximately 60% PJ (mix of young and mature stands), 40% mixed shrubs and PJ (skewed to the PJ type). The Unit B is approximately 24% sage with PJ encroachment, 33% sagebrush, 20% sagebrush/grass mix, and 23% sagebrush with a dominant mountain shrub component.

For Unit A (441 acres) a spot ignition technique will be utilized to create 1 – 20 acre openings in the continuous canopy targeting sub-mature and regeneration PJ. Fire will not be introduced into mature open stands of PJ but will not be excluded from those stands. Broadcast burning would be conducted in the areas with heavy slash and sawdust piles that remain from a commercial wood cutting operation in the late ‘70s and 80’s. Black lining would be conducted along the transition between the unit and Unit B to create an adequate buffer for the fall treatment of the unit. This unit would be scheduled for treatment in spring when soil and fuel moisture is too high to promote continuous crown fire.

For Unit B (948 acres) broadcast burning will be conducted to achieve resource objectives. For this unit the objective is to limit mortality of perennial bunch/sod grasses and forbs to 10-15% and kill 80-100% of PJ trees to remove vantage positions for predators, reduce tree encroachment into sage parks, and to retain valuable forage and cover species for sage-grouse. Total acreage consumed by fire would likely be limited to 60 – 90% of the targeted areas. Fire will not be intentionally introduced to, but will not be excluded from, parcels of sagebrush relatively free of PJ encroachment. Retaining well dispersed tracts of unburned sagebrush within the project’s perimeter would be advantageous as a seed source that would ultimately accelerate re-establishment of sagebrush cover for grouse. This unit would be scheduled for treatment in late summer/early fall after burning is complete in the PJ unit and when in prescription as detailed in the approved burn plan.

To insure plant recovery/establishment the treated areas will be rested from livestock grazing for two growing seasons.

Mitigation:

1. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

    - Whether the materials appear eligible for the National Register of Historic Places
    - The mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary)
    - A timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

    If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

2. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

3. Black lining, burning of slash and saw piles should be done either with snow cover or under conditions of maximum soil moisture to minimize negative impacts to existing desirable herbaceous species. Areas of large unnatural fuel deposits should be scarified and seeded, post burn, with native seed mix #2 in the fall before significant snow cover to re-inoculate soil microbes and to establish perennial ground cover. Monitor the treatment area for the occurrence of noxious weeds and eradicate any that should occur.

4. If it is determined that fire should be allowed to burn within the allowable area, suppression actions will be taken to prevent fire from significantly impacting riparian resources.

5. There is a rangeland monitoring study, a Daubenmire canopy cover transect located in SENE Sec 17, T # S R 98 W . In order to maintain continuity of long term monitoring data, the entire quarter quarter should be excluded from treatment.

6. Post "Prescribed Fire in Progress" signs on BLM 1182 on east end of burn area. Develop press release for local newspaper providing public notice of event. Install temporary signage (i.e. information board providing information about this proposed prescribed burn and prescribed fire benefits).

7. Very minimal livestock use typically occurs on the ridge where the treatment is proposed due to lack of water. If monitoring shows that cattle are using the area then it may be necessary to put up temporary electric fencing in order to protect the area from cattle grazing. Based on current conditions, elk use of the project area following burning and during vegetation recovery can be expected to be substantial and more problematic.

8. Avoid big game hunting season (August through November) if feasible.

9. KN Energy will need to be contacted before the burn plan is implemented.

10. The Colorado "One-Call" procedure will need to be enacted before the burn date.

No Action Alternative: Under this alternative, hazardous fuel reduction activities would not occur.

ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD:

Chemical Treatment: Using herbicides to kill woody vegetation was considered but eliminated from further analysis because the dead plant material would still present a hazardous, yet reduced, fuel situation. Additionally, selective chemical treatment is problematic and results are visually unappealing.

Mechanical Treatment: Mechanically treating the project area was considered but eliminated from further analysis because of the overwhelming cost to treat the heavy fuel loading associated with the project.

NEED FOR THE ACTION: Studies have shown that sage-grouse populations are low in portions of the Piceance Basin due to loss of habitat from a variety of factors including industrial activities, livestock management, and habitat conversion from sagebrush to PJ. Observations made by Colorado DOW and BLM biologists indicate that sage-grouse persist in making incidental use of the upper margin of the project, but the former sagebrush park comprising Unit B is largely unsuited for sage-grouse due to substantial pinyon pine encroachment over the past 40 years. Age distribution of PJ woodlands in Unit A indicate that big sagebrush suitable for sage-grouse was historically confined to the ridgeline crest. Strutting grounds and nesting, brood-rearing and general summer habitat all occur within a five mile radius of the proposed project and the southerly end of the project area is contiguous with sagebrush communities currently occupied by grouse. Successful implementation of this project (i.e., retarding successional woodland advance) would provide the opportunity, as suitable sagebrush canopies redevelop on the treatment areas, to restore function and utility to at least 725 acres of former sage-grouse habitat.

Section 102(a)(5) of the Healthy Forest Restoration Act authorizes projects that will enhance protection from catastrophic wildland fire for threatened, endangered and sensitive species or their habitats and that maintain and restore such habitats. The White River Fire Management Plan, which was developed as a required action in the White River Resource Management Plan, identifies areas where hazardous fuel reduction take place to protect, maintain and enhance ecosystems, economic values, and multiple resource management programs. The proposed action was developed to comply with these three plans.

PLAN CONFORMANCE REVIEW: The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: White River Record of Decision and Approved Resource Management Plan (ROD/RMP).

Date Approved: July 1, 1997

Decision Number/Page: 2-31 & 2-55

Decision Language:
"Restore, maintain, or enhance habitat conditions and features conductive to the maintenance or expansion of native grouse populations."

"Manage fire to protect public health, safety, and property as well as allowing fire to carry out important ecological functions." "Utilize prescribed fire, both natural and management ignited, to protect, maintain and enhance ecosystems, economic values, and multiple use resource management programs."

AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES:

STANDARDS FOR PUBLIC LAND HEALTH: In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. These standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. Because a standard exists for these five categories, a finding must be made for each of them in an environmental analysis. These findings are located in specific elements listed below:

CRITICAL ELEMENTS

AIR QUALITY

Affected Environment: Air quality is not currently being monitored in the project area, however it is considered to be within the national and Colorado air quality standards. There are two class 1 (visibility) areas located in northwest Colorado including the Mt. Zirkel Wilderness 120 miles to the northeast and the Flat Tops Wilderness 70 miles to the east.

Environmental Consequences of the Proposed Action: Both prescribed and wildland fires are potentially a significant source of air pollution emissions including particulate matter, volatile organic compounds, and carbon monoxide.

Under the proposed action, all fire activities will be conducted within existing laws that protect air quality. Specifically, all fire activities must comply with the applicable air quality regulations required by FLPMA, the Clean Air Act, and the Colorado Air Quality Commission. By complying with applicable air quality standards and regulations, impacts to air quality will be short term and considered acceptable.

Prescribed fires are typically smaller than uncontrolled wildfires, occurring during peak burning conditions and typically involve less total combustion than wildfires, as a result of the more mesic conditions under which prescribed fires are conducted resulting in less over all smoke production. Also, prescribed fires are conducted under atmospheric conditions that will promote air pollutant dispersion.

Environmental Consequences of the No Action Alternative: The direct environmental consequences associated from this project will obviously be absent in the no action alternative. However, greater long term consequences could occur as a result of increasing potential for large scale uncontrolled wildfires. Uncontrolled wildfires tend to produce more smoke as a result of more fuel consumption, their larger size, and longer burning duration. A large wildfire in this area has the potential to impact the two class 1 designated areas.

Mitigation: None.

AREAS OF CRITICAL ENVIRONMENTAL CONCERN

Affected Environment: There are no Areas of Critical Environmental Concern within the target area or within the maximum manageable area. Therefore no ACEC's will be impacted by the proposed action.

Environmental Consequences of the Proposed Action: None

Environmental Consequences of the No Action Alternative: None

Mitigation: None

CULTURAL RESOURCES

Affected Environment: A sample inventory of 441 acres of the most culturally sensitive portions of the proposed burn area was inventoried at the Class III (100% pedestrian) level. Three isolated finds were located in the proposed burn area.

Environmental Consequences of the Proposed Action: It does not appear that significant cultural resources will be impacted by the proposed prescribed burn.

Environmental Consequences of the No Action Alternative: There would be no new impacts to cultural resources under the No Action Alternative.

Mitigation: None

INVASIVE, NON-NATIVE SPECIES

Affected Environment: The only known noxious weed known to occur near the project area is Russian knapweed (Acroptilon repens). This infestation was found where the gas company hauled in and placed gravel on the existing road where it traverses the rolling loam range site in NWNE Sec 3, T # S R 98 W. On last inspection in 2002, this spot looked like it had been eradicated. The invasive alien cheatgrass is present at scattered locations in the vicinity of the project area on un-revegetated disturbed areas associated with gas wells and access roads and in some of the drainages, as a result of past fire and historical grazing.

Environmental Consequences of the Proposed Action: The proposed action will create minimal soil disturbance and thus, there will be few opportunities for noxious weed establishment. There is potential for cheatgrass invasion, particularly in black line areas adjacent to roads and trails and where the piles are burned. With revegetation of burn pile scars, this will be held to an absolute minimum.

Environmental Consequences of the No Action Alternative: There would be no change from the present situation of a being relatively noxious weed/cheatgrass free.

Mitigation: None

MIGRATORY BIRDS

Affected Environment: A wide variety of migratory birds fulfill reproductive functions in the project area's shrubland and woodland communities from late May through mid July. The abundance and composition of nesting birds are appropriate to these vegetation types in their current successional state (e.g., dense pinyon-juniper regeneration typically supports bird communities depauperate in abundance and richness). Birds associated with the project site are widely distributed and common throughout the Resource Area in extensive suitable habitats. The project area is not inhabitated by any species that is narrowly endemic are highly specialized, although a number have been identified by the Colorado Partners in Flight program as having high conservation interest, as listed below.

Pinyon-juniper woodlands	black-throated gray warbler, gray flycatcher, juniper titmouse, pinyon jay
Mountain shrub	Virginia's warbler
Big sagebrush	greater sage-grouse, Brewer's sparrow

Environmental Consequences of the Proposed Action: The proposed action would take place in two stages. Treatment of Unit A's woodlands would take place prior to May 15. With the exception of the early nesting pinyon jay, this date would largely predate the beginning stages of passerine nesting activities. These small and dispersed spot treatments would also concentrate on treating intermixed parcels of pinyon-juniper regeneration and submature trees that generally possess attributes less favorable for nest site selection (e.g., poorly developed subcanopy, lack of cavities, simple small-diameter branching). Mature trees were found in small, scattered tracts during raptor nest surveys performed in this unit. Mature woodland components are being explicitly avoided during treatment and the probability of substantial involvement of mature trees is low. Unit B treatment would occur in the fall (September/October), well after nesting activity is complete.

As scheduled, implementation of the proposed action would largely avoid disruption of migratory bird nesting activities. In the case of pinyon jay, these birds nest in loose traditional colonies that are often extensive. Although not specifically inventoried for pinyon jay, BLM biologists conducting raptor surveys on Unit A during the winter of 2004/2005 failed to note any small corvid-like nests and it is somewhat unlikely that this area is used by nesting jays. Further, pinyon jays are aggressive renesters and a disrupted nest attempt is less likely to have strong ramifications on an individual's breeding season success.

Environmental Consequences of the No Action Alternative: There would be no action authorized that would have potential to disrupt nest activity. For benefits attending greater sage-grouse (not a migratory bird), see special status species section.

Mitigation: None.

THREATENED, ENDANGERED, AND SENSITIVE ANIMAL SPECIES (includes a finding on Standard 4)

Affected Environment: There are no animals listed, proposed, or candidates for listing under the Endangered Species Act that inhabit or derive important benefit from the project locale.

Several BLM sensitive species that have a least peripheral association with mature pinyon-juniper woodlands (i.e, northern goshawk, Townsend's big-eared bat, and the Yuma and fringed myotis) have potential to occupy the project area. Unit A's predominantly submature woodlands were surveyed by BLM biologists this winter and no accipter nests were found. Although BLM has no information with which to assess the potential of any particular stand of pinyon-juniper woodlands for bat roosting functions, the fact that mature trees (offering cavities as roosts) were found to be a minor component of the treatment site likely reduces the probability that the proposed treatment area represents roosting habitat important for large numbers of these bats.

Although presently unsuited for occupation by greater sage-grouse because of extensive conifer encroachment, Unit B of the project proposal was formerly a large sagebrush park. Federal and State biologists recollect notable numbers of sage-grouse using the upper elevations of the project site within the last 25 years and the treatment area continues to be contiguous with occupied habitats to the south. It is likely that this park was used by sage-grouse for nesting, as well as general summer and winter use functions.

Environmental Consequences of the Proposed Action: The proposed action would have no conceivable influence on threatened and endangered animals.

There is no intent to specifically target mature pinyon and juniper trees in the Unit A treatment and, as such, the probability of adversely altering mature woodland character for potential use by northern goshawk and the 3 species of BLM-sensitive bats would be remote. Unit B of this project is specifically intended to restore approximately 725 acres of big sagebrush disclimax vegetation as habitat for sagebrush obligates, including greater sage-grouse. Although redevelopment of sagebrush canopies suited for occupation by sage-grouse may take one to several decades, fire rejuvenation is the only feasible means of restoring utility to tracts of habitat large enough to effectively reverse the decline in regional sage-grouse populations.

Environmental Consequences of the No Action Alternative: Under the no-action alternative, fire would not be applied to Unit B as a means of initiating the restorative process to sage-steppe habitats that were formerly occupied by sage-grouse. Although a single or series of unplanned wild-fire events may provide similar benefits to this former sage-steppe community sometime in the future, the extent and utility of sage-grouse habitats in Piceance Basin continues to decline such that the prospects for successful population recovery of this sage-grouse population grow increasingly dim over time.

Mitigation: None. Measures that enhance the benefits and reduce the risk of this project on special status species habitat have been incorporated in the proposed action.

Finding on the Public Land Health Standard for Threatened & Endangered species: There are no indications of this project area's sage-steppe habitats supporting mature pinyon-juniper woodlands in the past, and it is likely that the park was in a long-term fire-induced disclimax. Based on this area's historic sage-steppe character and function as habitat for sagebrush dependent species, the project locale currently fails to meet this standard, and under the no-action alternative, would persist in failing to meet the standard. Under the proposed action, post-fire redevelopment of sagebrush canopies suitable for use by sage-grouse may take several decades, but introducing fire as a means to mimic the periodic community rejuvenation process would be consistent with meeting the standard.

THREATENED, ENDANGERED, AND SENSITIVE PLANT SPECIES (includes a finding on Standard 4)

Affected Environment: No Threatened or Endangered plant species are present in the vicinity of, or will be affected by the proposed action.

Environmental Consequences of the Proposed Action: None

Environmental Consequences of the No Action Alternative: None

Mitigation: None

Finding on the Public Land Health Standard for Threatened & Endangered species: There is no reasonable likelihood that the proposed action or no action alternative would have an influence on the condition or function of Threatened, Endangered, or Sensitive plant species. Thus there would be no effect on achieving the land health standard.

WASTES, HAZARDOUS OR SOLID

Affected Environment: Hazardous or solid wastes are not expected to be a part of the affected environment. However, these materials my accidentally be introduced in the environment through the implementation of the proposed action. Fuel, oil, grease, and antifreeze are all associated with vehicles and fire suppression equipment associated with implementing the proposed action and would only be introduced into the environment because of equipment failure. Minute loss of these materials through normal operation of equipment, maintenance and fueling procedures are not considered spills. Spills are generally defined as the loss of large quantities of these materials into the environment and are determined to be a spill on a case-by-case basis.

Environmental Consequences of the Proposed Action: For any given accident or incident involving hazardous materials, consequences will be dependent on the volume and nature of the incident and material released. Short term impacts such as contaminations of soils, vegetation, and surface water could occur.

Environmental Consequences of the No Action Alternative: No hazardous wastes would be introduced into the environment under the no action alternative.

Mitigation: None

WATER QUALITY, SURFACE AND GROUND (includes a finding on Standard 5)

Affected Environment: The proposed action is in Eureka and Yankee Gulches, which are tributary to Black Sulphur, Piceance Creek and the White River. A review of the Colorado's 1989 Nonpoint Source Assessment Report (plus updates), the 305(b) report, the 303(d) list and the Unified Watershed Assessment was done to see if any water quality concerns have been identified. The State has classified this stream segment as Aquatic Life Cold 1, Recreation 2, and Agriculture. The state has further defined water quality parameters with table values. These standards reflect the ambient water quality and define maximum allowable concentrations for the various water quality parameters. The anti-degradation rule applies to this segment meaning no

further water quality degradation is allowable that would interfere with or become harmful to the designated uses.

Environmental Consequences of the Proposed Action: Although infiltration rates are decreased immediately following a fire, once the vegetation is reestablished, the conditions would be improved overall. Hence, impacts from the proposed action are expected to be minimal since the drainage area is relatively small. It is unlikely adverse affects on water quality and quantity would occur as a result of the proposed manipulations. Prescribed burns can result in vegetation rejuvenation and/or conversions which are hydrologically positive.

Environmental Consequences of the No Action Alternative: Impacts are not anticipated as a result of the no-action alternative.

Mitigation: None

Finding on the Public Land Health Standard for water quality: Water quality of the watersheds in the proposed action is well within the limits established by the State. The effects of the proposed action would not alter the watersheds ability to meet these State standards.

WETLANDS AND RIPARIAN ZONES (includes a finding on Standard 2)

Affected Environment: There are no perennial streams or springs with associated riparian vegetation located within the target units. There are three BLM springs (184-18, 184-14, and 173-04) that are present within the allowable area. Yankee Gulch, Eureka Creek, and Black Sulphur Creek all occur within the allowable area associated riparian vegetation is comprised of grasses and sedges. Yankee Gulch is an ephemeral drainage which does not have perennial riparian vegetation. The channel is in places deeply incised from flash flood events and the banks are sparsely vegetated with perennial and annual grasses and sagebrush. Eureka Creek is ephemeral below T3S R98W Sec. 21 $NW^{1/4}$, and is intermittent above that segment only running water during spring runoff and during measurable rainfall events. The riparian vegetation below section 29 is somewhat limited due to the lack of constant growing season water there is some head cutting present. The channel does have some grasses and sedges present in the flat portions of the channel. Upstream from section 29 the riparian vegetation is comprised of grasses, sedges and rushes as well as willow and box-elder with limited downward cutting. Black Sulphur Creek is a perennial stream with a narrow riparian zone +/- 5 feet. The stream occurs entirely on private land within the allowable area and is in a seriously degraded state from inappropriate livestock management. There is little willow or box-elder and what does occur is severely hedged or dead, and the riparian grasses, sedges and forbs area grazed off annually. There are some noxious weeds present within the riparian zone primarily houndstongue and a variety of thistles. Much of the uplands associated with this stream are irrigated hay meadow.

Environmental Consequences of the Proposed Action: Because the riparian resources are not located within the target units, there is little chance that these resources would be impacted by the proposed action. The springs occur in steep drainages with sparsely vegetated shale slopes and there is very little chance fire would be able to reach these locations and impact these

resources. Yankee Gulch and Eureka Creek have both been previously burned off along their ephemeral reaches; conversely the fuel loading adjacent to these resources is very light. In the unlikely event that fire should reach these areas, it would be of low intensity and any riparian vegetation would resprout/regrow quickly after being burned. In Eureka Creek above section 29 the potential to impact riparian resources is greatest due to the relatively well developed wide riparian zone and continuous nature of upland vegetation which could carry fire to the riparian zone with greater intensity than in the more sparsely vegetated drainage below section 29. High intensity fire could kill willows present within the riparian zone and will top kill box-elder. Both these species will resprout post fire if burned under moderate to low intensities. Riparian grasses, sedges, rushes, and forbs generally respond well to moderate and low intensity fire with less than 5% mortality, these species may be killed by severe fires that remove most of the soil organic layer and kill the rhizomes. These species must then rely on seedling establishment for postfire recovery, which may take up to 10 years. There is no chance that riparian resources would be impacted in Black Sulphur Creek due to the irrigated hay fields located between the riparian zone and the continuous upland PJ woodlands.

Environmental Consequences of the No Action Alternative: There would be no impacts to riparian or wetland resources under this alternative.

Mitigation: None

Finding on the Public Land Health Standard for riparian systems: No formal assessment has been conducted to date to determine if the three springs that fall within the allowable area, are or are not meeting riparian system standards. Proper Functioning Condition (PFC) assessment was conducted for Yankee Gulch in 1995. Reach one, two, three and four were found to be not functioning with a downward trend due to livestock management, active head cutting and lack of riparian vegetation. Much of Eureka is on private lands and therefore has not had a formal PFC assessment conducted. Below section 29 the riparian is functioning to stabilize the streambank as well as can be expected for the potential of the site. Above section 29 the riparian is functioning at or above the potential of the site with a well developed herbaceous and shrub component of riparian species, stable banks, and wide meandering channels.

Since the riparian resources are not located within the target treatment areas, the chance of impacting these resources is very small. In the unlikely event that fire should burn these areas, it would be of low intensity and any riparian vegetation would resprout/regrow quickly after being burned. There would likely be no effect on achievement of the land health standard as a result of the proposed action.

CRITICAL ELEMENTS NOT PRESENT OR NOT AFFECTED:

No flood plains, prime and unique farmlands, Wilderness, or Wild and Scenic Rivers exist within the area affected by the proposed action. There are also no Native American religious or environmental justice concerns associated with the proposed action.

NON-CRITICAL ELEMENTS

The following elements **must** be addressed due to the involvement of Standards for Public Land Health:

SOILS (includes a finding on Standard 1)

Affected Environment: The following table describes the soils that are present within the burn units. The Forelle Loams, Piceance Loam, and Yamac Loam soils are deep well drained soil on rolling uplands, broad ridge tops and terraces. Permeability of these soils is moderate, available water capacity ranges from moderate to high, and the hazard of water erosion is slight to high. The native vegetation for these soil types is primarily low shrubs and grasses and all are considered rolling loam range sites. The Rentsac Channery Loam and Redcreek-Rentsac complex soils are shallow well drained soils occupying ridges and side slopes. The permeability is moderately rapid with a very low available water capacity. The hazard of water erosion is moderate to very high. The native vegetation is mainly pinyon-juniper and the range site is Pinyon-juniper woodland. Soils within the allowable area are similar in physical and vegetative characteristics to those found within the targeted area.

Soil Unit Name	Erosion	Acres
Forelle loam, 3-8%slopes	Moderate	18.103
Forelle loam, 8-15%slopes	Moderate-High	16.785
Piceance fine sandy loam,5-15%slopes	Moderate-High	81.323
Redcreek-Rentsac complex,5-30%slopes	Moderate-High	777.123
Rentsac channery loam,5-50%slopes	Moderate-Very High	173.698
Torriorthents-RockOutcrop, complex,15-90%slopes	Very High	0.115
Yamac Loam,2-15%slope	Slight-Moderate	322.115

Environmental Consequences of the Proposed Action: The effects of prescribed burning on soils is directly related to the depth and intensity of soil heating as well as vegetation removal which exposes the soil to wind and water erosion. Conducting this burn while soil and live fuel moisture is high, combined with light to moderate fuel loading, will result in lower surface temperatures and short burning duration. As a result, soil heating should not be severe enough to cause significant changes in physical properties of the soil, mortality of perennial grasses and forbs, and mortality of the seed bed. It is anticipated that soil erosion will increase for one to three growing seasons post burn due to increased soil surface exposure. Within that time frame herbaceous vegetation cover should increase above pre-burn levels resulting in increased soil stability, water infiltration, and reduced soil erosion.

Prescribed burning in unit A will more adversely affect soils for a longer duration, due to steeper slopes, shallower soils, lower composition of perennial grasses and forbs, thick duff, and greater fuel loading. These areas will require more time to adequately revegetate and are more prone to soil erosion. The most adverse impacts would be to those areas with thick duff and/or heavy accumulations of fuels because of the intense long duration heat produced. Short term soil sterilization and hydrophobicity may occur if burned under very dry conditions however, burning under these conditions should be avoided by conducting the burn in the spring when soil and fuel

moistures are relatively high. Despite these short term effects, soil erosion would be at or below pre-burn levels in three to five years due to increased ground cover. In areas with large deposits of unnatural fuels resulting from commercial wood cutting operations soil sterilization and hydrophobicity can be expected due to the long duration intense heat that will be produced and transferred into the soil.

Another related effect of implementing the proposed action is the reduced chance of large fire occurrence and improved ability for wildland fires to be managed under moderate environmental conditions.

Environmental Consequences of the No Action Alternative: There would be no direct impact to soils under this alternative. However, the threat of large fires occurring under extremely dry conditions would continue to exist. The scale and duration of adverse soil impacts is much higher under extreme burning conditions associated with large fire occurrence.

Mitigation: None

Finding on the Public Land Health Standard for upland soils: Soils within the burn units currently meet Public Land Health Standards. Implementing this prescribed fire project will cause a short term (1-3 years) increase in soil erosion by decreasing canopy cover and surface litter. However, since soil heating should not be severe, organic content of the soil should remain high, canopy cover should increase with vigorous desirable perennial grasses and forbs, and plant diversity can be expected to increase from current conditions. It is anticipated that by implementing this proposed action the long term effect should improve the indicators for the upland soils standard.

VEGETATION (includes a finding on Standard 3)

Affected Environment: The principle ecological site in unit A is a Pinyon-Juniper woodland site 439 of the 441 acres. Vegetation on the proposed treatment unit is dominated by a mix of mature and sub-mature pinyon and juniper. The juniper content tapers down from about 20% at the lower end of the unit to about 5% percent at the upper elevation of the unit. There is a mix of shrubs in the areas where the canopy is not very dense comprised of sagebrush, bitterbrush, mountain mahogany, and serviceberry with a well developed understory of grasses and forbs. Under the dense woodland canopy the understory is limited to scattered grasses and forbs (needle and thread, Indian ricegrass, penstemon, and various composites).

The principle ecological sites for unit B is rolling loam (436 acres) and pinyon-juniper woodland (512 acres). Vegetation on both ecological sites is mountain big sagebrush (*Artemisia tridentata* ssp *vaseyana*) at the upper end and Wyoming big sagebrush (*Artemisia tridentata* ssp *wyomingensis*) at the lower end. Between the two upper and lower elevations of the unit, the two species are mixed and probably hybridize. There is serviceberry, bitterbrush, oakbrush, and snowberry present and in places abundant throughout the unit, especially at the upper elevation of the unit. The well developed and diverse herbaceous understory is comprised of needle and thread, western wheatgrass, mutton bluegrass, buckwheat, lupine, tapertip hawksbeard and long

leaf phlox. This unit is experiencing heavy pinyon establishment on the site, which in the absence of a disturbance can be expected to type convert to PJ within the next 75-100 years.

The range site description based on the Rio Blanco soil survey indicates that this unit should be 54% pinyon-juniper. The current vegetation on the unit is primarily sagebrush/mixed shrubs with less than 10% canopy cover PJ. This indicates that a fire most likely swept across the upper elevation of the ridge sometime between 100 and 300 years ago and the current vegetation is in a late-mid seral stage which is transitioning back towards a PJ site.

The following table depicts acres of vegetation class within each treatment unit.

Unit	Vegetation	Acres
Sage/regeneration	Pinyon-Juniper	0.55
	PJ(>25%)-Mountain Shrub Mix	178.51
	PJ(>25%)-Big Sagebrush Mix	37.83
	Big Sagebrush Community	318.85
	Big Sagebrush/Grass Mix	191.02
	Big Sagebrush/Mesic Mountain Shrub Mix	218.85
	Big Sagebrush/Rabbitbrush Mix	2.32
	Serviceberry/Shrub Mix	0.39
	Sparse PJ/Shrub/Rock Mix	0.31
Pinyon-Juniper	Grass Dominated	1.39
	Pinyon-Juniper	117.23
	PJ(<25%)- Mountain Shrub Mix	227.86
	PJ(<25%)-Sagebrush Mix	34.04
	Big Sagebrush Community	28.48
	Big Sagebrush/Grass Mix	28.21
	Big Sagebrush/Rabbitbrush Mix	3.24

Environmental Consequences of the Proposed Action: Implementation of the burn project will result in 80-90% mortality of big sagebrush in all burn units. Big sagebrush (primarily mountain big sagebrush) will reinvade the treatment sites within 10-20 years, the rate of reinvasion will be faster in the higher elevation units and will be determined by climatic conditions and the amount of grazing use made by large herbivore, principally elk and cattle. Wyoming big sagebrush reinvasion will take place at slower rates, probably in the range of 20-60 years. Utah serviceberry and mountain mahogany plants will resprout following burning. Bitterbrush is likely to resprout if prescribed burning is conducted with adequate soil moisture. Fire will result in almost complete mortality of pinyon and juniper in the burn units which is the principal objective of the treatment.

Herbaceous species are generally well adapted to fire. Grasses such as needle and thread and western wheatgrass respond favorably to fire and would be expected to be herbaceous co dominants in the first ten years after burning. Mat forming forbs such as *Antennaria* (pussytoes) and *Eriogonum* (buckwheat) can be severely damaged by fire if the fire occurs under hot, dry conditions such as would occur in a wildfire. In general, if the burn is completed in the spring under prescribed soil moisture conditions, it will favor forbs in the post burn herbaceous

composition. Burning can be expected to lengthen the growing season and enhance the nutrient quality of forbs and grasses on the burn sites.

Burning will result in a net decline in the biomass and cover of the biological crusts on site with the extent of the loss being dependent on fire intensity and the resulting mosaic of the burn. Depending on fire intensity, biological crust structural components such as fungal hyphae, algal and cyan bacterial filaments, and moss and lichen rhizomes may persist for some time after burning, reducing erosion while the biological crusts and vascular plants recover after burning. Crust recovery rates vary widely, and may range from 2-5 years for partial recovery of algal crusts to up to 200 years for moss and lichen crusts.

Environmental Consequences of the No Action Alternative: Presently the treatment units could be considered to be in Stage One relative to their conversion into PJ woodlands. That is, pinyon trees have invaded the Wyoming/mountain big sagebrush type but they have not reached sufficient density and height to dominate the site. No action would allow the invasion process to continue so that over the long term, the treatment areas would be dominated in both structure and composition by pinyon-juniper trees, absent the occurrence of an uncontrollable wildfire event.

Mitigation: None

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial)*:* Vegetation in the proposed project area currently meets the Standard. Successful implementation of this project, while decreasing pinyon-juniper, mountain and Wyoming big sagebrush cover over the short term, will result in a long term improvement in the vegetation cover and composition, and the standard would continue to be met.

WILDLIFE, AQUATIC (includes a finding on Standard 3)

Affected Environment: The nearest perennial system that is capable of supporting a higher order aquatic community is Black Sulphur Creek, a minimum 2 miles downstream of the proposed project. Downstream portions of this channel are privately owned and in a seriously degraded state from inappropriate livestock management.

Environmental Consequences of the Proposed Action: There is no reasonable probability that distant aquatic habitats would be influenced in any manner by the proposed action.

Environmental Consequences of the No Action Alternative: It is unlikely that failure to implement this project would have any imminent short term (e.g., within 10-15 years) influence on downstream channel conditions. Due to numerous variables that may affect the condition and vegetation communities on these lands (e.g., livestock management and wildfire as they influence sediment contribution), longer term assessments of indirect influences would be speculative.

Mitigation: None.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Terrestrial): The targeted sagebrush communities currently support herbaceous understories with appropriate composition and density and, at least for the next decade or so, are not expected to contribute undue quantities of sediment to downstream aquatic systems. Burning under the proposed action would provide the opportunity to enhance ground cover density and further reduce sediment contributed downstream--functions consistent with continued meeting of the standard.

WILDLIFE, TERRESTRIAL (includes a finding on Standard 3)

Affected Environment: The project locale is encompassed by deer and elk winter ranges. These areas are primarily occupied by big game from September through December, and again in April and May. Although no special functions are attributed to this area, its well developed herbaceous understory is an important source of nutrition during the fall (e.g., fat deposition in preparation for winter) and spring (e.g., high nutritional plane required during lactation and later gestation).

The predominantly submature and regenerating stands of pinyon-juniper woodlands comprising Unit A do not represent woodland character favored as nesting habitat by woodland raptors. Nest surveys conducted by BLM biologists this winter found a single red-tailed tree nest (no evidence of recent use) and no indications of past or recent nesting by accipiters.

Small mammal and non-game bird populations associated with the project area are typical and widely distributed in extensive suitable habitats, both on a local and regional scale. There are no species known to be narrowly endemic or highly specialized. Much of the project area identified for treatment represents habitats that are typically poor in species abundance and richness. For example, sagebrush habitats that are heavily encroached by conifer regeneration support neither the abundance nor variety of species associated with either habitat alone. Further, Area biologists have recognized that ridgeline woodland communities subjected to extensive wood-cutting activity (normally targeting larger pinyon pine) tend to support lower densities of birds associated with these woodland.

Environmental Consequences of the Proposed Action: Although this project would likely be implemented during the periods of big game occupation, these timeframes are not considered critical for big game energy management and small scale/short term displacement would be of no consequence. Burning up to 30% of Unit A's relatively continuous woodland canopy as a number of small 1 to 10-acre units would, by enhancing or promoting the redevelopment of understory shrub and ground cover components, provide sources of preferred broadleaf forage interspersed among conifer cover—an ideal forage-cover relationship for deer. More extensive treatment of Unit B would remove large quantities of potential sagebrush forage for wintering deer for one to several decades, but as higher elevation winter range, these parks do not sustain heavy or prolonged browsing use. A more important aspect of this project for big game would be the maintenance of strong herbaceous development in contrast to the slow decline in herbaceous availability that would attend woodland advance.

Reductions in the continuity and extent of submature woodlands and tree regeneration (up to 30% of stand or 150 acres) as small treatments scattered throughout Unit A would tend to mimic an accumulation of natural burns and is not expected to have any effective influence on the abundance or distribution of nongame populations at any landscape scale. Unit B treatment would represent the restoration of a 725-acre parcel of sage-steppe habitat with well developed herbaceous understories. As sagebrush canopies redevelop on this area, populations of such species as sagebrush vole, Brewer's sparrow, and green-tailed towhee would be expected to undergo substantive increases in abundance. Although this action arrests the development of pinyon-juniper woodland, this vegetation community, as well as its nongame associates, is secure and dominant in Piceance Basin.

Environmental Consequences of the No Action Alternative: Wildlife habitat conditions would remain relatively unchanged for extended periods of time. Sagebrush dependent species would progressively decline, whereas 50 to 100 years might pass before redeveloping woodlands were capable of accommodating a full complement of pinyon-juniper associates. Due to numerous variables that may affect the condition and vegetation communities on these lands (e.g., livestock management and wildfire events), longer term assessments of habitat change would be speculative.

Mitigation: None. Measures that enhance the benefits and reduce the risk of this project on resident wildlife have been incorporated in the proposed action.

Finding on the Public Land Health Standard for plant and animal communities (partial, see also Vegetation and Wildlife, Aquatic): The project area currently meets the standard for most terrestrial wildlife communities (but see discussion for sage-grouse). Prescribed burning emulates a recurring ecological process that tends to maintain community equilibrium at the larger landscape scale and is therefore wholly consistent with continued meeting of the standard.

OTHER NON-CRITICAL ELEMENTS: For the following elements, only those brought forward for analysis will be addressed further.

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Access and Transportation			X
Cadastral Survey	X		
Fire Management			X
Forest Management			X
Geology and Minerals	X		
Hydrology/Water Rights			X
Law Enforcement		X	
Noise	X		
Paleontology	X		
Rangeland Management			X

Non-Critical Element	NA or Not Present	Applicable or Present, No Impact	Applicable & Present and Brought Forward for Analysis
Realty Authorizations			X
Recreation			X
Socio-Economics		X	
Visual Resources			X
Wild Horses	X		

ACCESS AND TRANSPORTATION

Affected Environment: BLM 1182 bisects proposed project area and several unnamed unnumbered routes persist in the proposed project area.

Environmental Consequences of the Proposed Action: Travel on BLM road 1182 and other routes will likely be restricted during project duration.

Environmental Consequences of the No Action Alternative: None.

Mitigation: None

FIRE MANAGEMENT

Affected Environment: The proposed action is within the D5-Cathedral Bluffs/Roan Plateau fire management polygon. "D" polygons are areas where fire is desired and there are few to no constraints to its use. The D5 polygon has experienced 184 wildland fire starts since 1994 with 10,286 acres consumed within that time frame. The target area is Mountain/Wyoming Big Sagebrush/grass, and PJ vegetation stratum which is classified as a fire regime III (vegetation strata that experiences infrequent (>35 year fire return intervals) fire return intervals that remove > 75% of the vegetation). The target area has missed approximately 1-2 fire return intervals, and is rated as a condition class III due to unnatural fuel loading, from past forest management actions, and departure from fire frequency. The cumulative Fire Regime and Condition Class (FRCC) assessment of the fire management polygon is in a fire regime IV and a condition class II.

Environmental Consequences of the Proposed Action: The proposed action will result in a lessoning of potential fire behavior and fire intensities post treatment for a period of 20 to 30 years. The treated areas will be dominated by grasses and forbs, and if they should burn, the intensities would be much lower than under the current situation. Suppression activities would be safer more effective and less costly than in the current situation with the heavier more continuous fuels.

Post treatment unit A would move from a FRCC of III to a FRCC of II more closely resembling vegetation type and structure of the potential natural vegetation pre-settlement with a natural mix of age classes and varying levels of canopy closure. An FRCC of II would also be achieved for

this unit by removing the unnatural composition and structure of fuels resulting from previous forest management activities.

Post treatment unit B would most likely not show a shift in FRCC. If analyzed separate from the project as a whole it would most likely rate as condition class II with little change from expected conditions within the range of historic natural variability. Successful implementation would achieve a natural mix of age classes and varying levels of canopy closure within this vegetation stratum and ensure long term (50-100 years) condition class maintenance.

Environmental Consequences of the No Action Alternative: There will be no change from the current condition. Unit A would continue to remain in condition class III and unit be would continue to progress toward condition class III in the absence of a fire disturbance. The threat of a large, difficult to control, and costly wildland fire burning under extreme environmental conditions would remain.

Mitigation: None

FOREST MANAGEMENT

Affected Environment: The project area contains 512 acres of PJ woodland classified by soils. Of this acreage 115 acres are mid - late seral PJ woodlands. The remainder is PJ encroaching into sagebrush and mountain browse vegetation types.

Environmental Consequences of the Proposed Action: The mature PJ stands would not be affected by this alternative. The treatment of 397 acres of PJ encroachment would not affect the woodland base or deny woodland products for the general public with exception of a few pinyon Christmas trees. Prescribed burning would set back PJ woodland establishment from between 50 and 100 years, and development of mature woodlands by 200 to 300 years if there are no follow-up treatments. Burning of the encroaching trees at this time would decrease the loading of fuels and continuity, further protecting the remaining mature woodlands from stand replacing wildfires.

Environmental Consequences of the No Action Alternative: There are two scenarios which could occur within the PJ encroachment. These areas would develop in the absence of fire and develop into mature stands over a period of 150 to 250 years, or these areas would increase in cover and density and would burn in a stand replacing wild fire with the likely loss of the current mature stands.

Mitigation: None

HYDROLOGY AND WATER RIGHTS

Affected Environment: The majority of the resource area was inventoried in 1983 and 1984 for springs. The following table lists springs which were identified in the WRFO Water Atlas for the area of the proposed action.

Springs within 1.5 mile buffer of Burn Boundary									
Quarter	Section	Township	Range	Map Code	Water Right Filing	SC	pH	Q in gpm	Date Measured
Lot 5-SWNW	6	4 S	98 W	184 -14	98CW140	3462	8.7	4	8/17/83
Lot 6-NWSW	6	4 S	98 W	184 -18	85CW392	2977	8	70.59	8/17/83

The third spring BLM 173-04 does not have a water right filed on it nor does it have an inventory conducted on it. This spring occurs within a ½-mile of the south fire boundary.

Environmental Consequences of the Proposed Action: The above springs are un-developed seeps emerging from the drainage bottom. In the unlikely event the fire was to spill over into the buffer area, impacts to these springs are not anticipated.

Environmental Consequences of the No Action Alternative: Impacts are not anticipated from the no-action alternative.

Mitigation: None

RANGELAND MANAGEMENT

Affected Environment: The proposed action occurs within the Black Sulphur allotment (06029). This is a common allotment and is used by two permittees. Their permitted use is as follows:

Permit Holder and Permit Number	Livestock Number and Kind	Grazing Period Begin	Grazing Period End	% Public Land	Type Use	AUMs
Mantle Ranch #051419	200 Cattle	11/01	02/28	86	Active	679
	50 Cattle	04/01	06/15	86	Active	107
	118 Cattle	05/01	06/15	86	Active	153
Boone Vaughn #051486	100 Cattle	05/01	06/15	100	Active	151
	100 Cattle	11/01	11/30	100	Active	99

Environmental Consequences of the Proposed Action: The proposed action will be beneficial over the short and long term for rangeland forage production and composition. Historical fire suppression activities have allowed pinyon and juniper trees to maximize their expression at the expense of rangeland productivity and diversity.

Environmental Consequences of the No Action Alternative: There will be no change from the present situation.

Mitigation: None

REALTY AUTHORIZATIONS

Affected Environment: The proposed action encompasses an area that has a pipeline located within the boundaries of the burn area.

Environmental Consequences of the Proposed Action: In T. 3 S., R. 98 W., Section 16, SE¼NW¼, SW¼SW¼; Section 17, NE¼SE¼, SE¼SE¼; KN Energy (Kinder Morgan) has a buried natural gas pipeline right-of-way, COC37755. The right-of-way width is 50 feet.

Environmental Consequences of the No Action Alternative: Under the no action alternative, there would not be any impacts.

Mitigation: None

RECREATION

Affected Environment: The proposed action occurs within the White River Extensive Recreation Management Area (ERMA). BLM custodially manages the ERMA to provide for unstructured recreation activities such as hunting, dispersed camping, hiking, horseback riding, wildlife viewing and off-highway vehicle use.

The project areas and the surrounding area has been delineated a Recreation Opportunity Spectrum (ROS) class of Semi-Primitive Motorized (SPM). SPM recreation setting is typically characterized by a natural appearing environment with few administrative controls, low interaction between users but evidence of other users may be present. SPM recreation experience is characterized by a high probability of isolation from the sights and sounds of humans that offers an environment that offers challenge and risk.

Environmental Consequences of the Proposed Action: If action occurs during the high-use fall big game hunting seasons, public will likely be dispersed from the project area.

With the introduction of new well pads and roads, an increase of traffic could be expected increasing the likihood of human interactions, the sights and sounds associated with the human environment and a less naturally appearing environment.

Environmental Consequences of the No Action Alternative: None.

Mitigation: None

VISUAL RESOURCE

Affected Environment: The proposed action is within a VRM class III area. The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape

Environmental Consequences of the Proposed Action: The proposed action will likely modify color and texture yet the action mimics what could naturally occur (i.e. wildfire) therefore the casual observer may notice the changes in color and texture but will it likely not draw attention and VRM III objectives will be met. Furthermore, any disturbed vegetation will return making the action virtually unnoticeable within a period of a few years.

Environmental Consequences of the No Action Alternative: No impact on visual resources.

Mitigation: None.

CUMULATIVE IMPACTS SUMMARY: The proposed action would contribute incrementally to the restoration of sage-steppe habitats across this elevational range in Piceance Basin that, because of successional advance, are in an accelerating process of long-term conversion to pinyon-juniper woodlands. Applying management that increases the extent and restores the continuity and utility of sage-steppe habitats is one of the most important considerations in conserving the greater sage-grouse population in Piceance Basin.

BLM has, and will continue to treat areas of heavy fuels throughout the White River Resource Area in accordance with the White River Fire Management Plan (BLM 1999). Treating various areas of heavy fuels will reduce the potential for catastrophic wildfire by transforming a running crown fire back to the surface, where suppression efforts can be more effective. Once the proposed action has been implemented, BLM can more safely treat other areas in the vicinity that have heavy or unnatural fuels buildup, using prescribed fire or fire use. This would further reduce the potential of wildfire damage to ecosystem function within the Piceance Basin and continue to allow fire to assume it natural role within the ecosystem.

By implementing the proposed action and other hazardous fuel reduction actions BLM will achieve a mosaic landscape with varying seral vegetation classes which result in a more fire resistant landscape and healthier rangelands. Effects are expected to be similar to effects from similar projects implemented within the White River Field Office since the Fire Management Plan was signed in 1999. To date the WRFO hazardous fuels program has treated 6,734 acres of public land since 1999 totaling 0.50% of all public land within the resource area. This coupled with the design criteria and the small overall percentage of public land being treated result in no significant cumulative impacts.

PERSONS / AGENCIES CONSULTED:

Mantle Land Company, Private Land Owner and Grazing Permitee
Boone Vaughn, Grazing Permitee
Marvin Coller, Private Land Owner
Exxon Mobil, Puckett Land Company, Whiting Oil Company, Private Land Owners
Brad Petch, Colorado Division of Wildlife

INTERDISCIPLINARY REVIEW:

Name	Title	Area of Responsibility
Ken Holsinger	Natural Resource Specialist	Air Quality
Ken Holsinger	Natural Resource Specialist	Areas of Critical Environmental Concern
Ken Holsinger	Natural Resource Specialist	Threatened and Endangered Plant Species
Michael Selle	Archaeologist	Cultural Resources Paleontological Resources
Mark Hafkenschiel	Rangeland Management Specialist	Invasive, Non-Native Species, Vegetation, Rangeland Management
Ed Hollowed	Wildlife Biologist	Migratory Birds
Ed Hollowed	Wildlife Biologist	Threatened, Endangered and Sensitive Animal Species, Wildlife
Ken Holsinger	Natural Resource Specialist	Wastes, Hazardous or Solid
Caroline Hollowed	Planning and Environmental Coordinator	Water Quality, Surface and Ground Hydrology and Water Rights
Ed Hollowed	Wildlife Biologist	Wetlands and Riparian Zones
Chris Ham	Outdoor Recreation Planner	Wilderness
Ken Holsinger	Natural Resource Specialist	Soils
Ken Holsinger/Mark Hafkenschiel	Natural Resource Specialist	Vegetation
Ed Hollowed	Wildlife Biologist	Wildlife Terrestrial and Aquatic
Chris Ham	Outdoor Recreation Planner	Access and Transportation
Ken Holsinger	Natural Resource Specialist	Fire Management
Robert Fowler	Forester	Forest Management
Paul Daggett	Mining Engineer	Geology and Minerals
Penny Brown	Realty Specialist	Realty Authorizations
Chris Ham	Outdoor Recreation Planner	Recreation
Chris Ham	Outdoor Recreation Planner	Visual Resources
Valerie Dobrich	Natural Resource Specialist	Wild Horses

REFERENCES:

1. Bureau of Land Management (BLM) White River Field Office. (1999). White River Fire Management Plan: Environmental Assessment Record Number CO-017-WR-99-99-EA. Available upon request from the White River Field Office, 73544 Hwy 64, Meeker, CO. Phone 970-878-3800. Email wrfo_webmail@co.blm.gov.

2. Bureau of Land Management (BLM) White River Resource Area, Colorado. (1997). White River Record of Decision and Approved Resource Management Plan. Available on the BLM Colorado Web site: http://www.co.blm.gov/nepa/rmpdocs/wrfodocs/wrformp.htm

3. Neuenschwander, Leon F., James P. Menakis, Melanie Miller, R. Neil Sampson, Colin Hardy, Bob Averill, Roy Mask. (2000). "Chapter 3, Indexing Colorado Watersheds to Risk of Wildfire." Published in: Mapping Wildfire Hazards and Risks (ed: R. Neil Sampson, R. Dwight Atkinson, and Joe W. Lewis) Fodd Products Press. New York.

4. USDI Bureau of Land Management, Wyoming State Office, Division of Lands and Renewable Resources (1991) Simple Approach Smoke Estimation Model (SASEM) – Version 3.50.

5. Hann, Wendel, Havlina, Doug, Shlisky, Ayn, et al. 2003. Interagency and The Nature Conservancy fire regime condition class website .USDA Forest Service, US Department of the Interior, The Nature Conservancy, and Systems for Environmental Management [www.frcc.gov].

Finding of No Significant Impact/Decision Record (FONSI/DR)

CO-110-2005-041-EA

FINDING OF NO SIGNIFICANT IMPACT (FONSI)/RATIONALE: The environmental assessment and analyzing the environmental effects of the proposed action have been reviewed. The approved mitigation measures (listed below) result in a Finding of No Significant Impact on the human environment. Therefore, an environmental impact statement is not necessary to further analyze the environmental effects of the proposed action.

This determination is based on the following:

Factors Considered	Potential Impact	Reasons the Impact is not Adversely Significant
Public Health and Safety	Firefighter and public safety will be improved on approximately 1300 acres due to the reduced risk of destructive wildland fire.	The proposed action would not significantly affect public health and safety but would reduce current and expected risks.
Cultural Resources	Cultural resource surveys have been completed and no sites of scientific importance were identified within the treatment areas. Design Criteria and project provisions will provide protection if new sites are discovered during project implementation (EA page 5-6).	Not significant because no sites will be impacted.
Sensitive Species	BLM Biologists have determined that the proposed action will improve habitat suitability for Greater sage-grouse by restoring the sagebrush parks in the area. (EA pages 8-9).	Measures that enhance the benefits and reduce the risk of this project on special status species habitat have been incorporated in the proposed action.
Wildlife	The project locale is encompassed by deer and elk winter ranges. These areas are primarily occupied by big game from September through December, and again in April and May. Although no special functions are attributed to this area, its well-developed herbaceous understory is an important source of nutrition during	Measures that enhance the benefits and reduce the risk of this project on resident wildlife have been incorporated in the proposed action. The proposed action will not impact nesting raptors.

Factors Considered	Potential Impact	Reasons the Impact is not Adversely Significant
	the fall (e.g., fat deposition in preparation for winter) and spring (e.g., high nutritional plane required during lactation and later gestation). The predominantly submature and regenerating stands of pinyon-juniper woodlands comprising Unit A do not represent woodland character favored as nesting habitat by woodland raptors. (EA pages 17-18)	
Water Quality and Soils	Impacts associated with the proposed action include soil heating and increased wind and water erosion. Reduced water quality could result because of an increase in erosion and sediment yields. (EA pages 10 and 12,13,14)	The proposed action will be conducted under moderate environmental conditions, which will not expose soils, perennial grasses and forbs to intense long duration fire. The result will be rapid re-growth of vegetation that will stabilize soils, reduce erosion and decrease sediment yield.
Wetlands and Riparian Zones	Because the riparian resources are not located within the target units, there is little chance that these resources would be impacted by the proposed action. Should fire establish in Eureka Creek above section 29 impacts to riparian resources could become a problem. (see EA pages 11 and 12)	If it is determined that fire should be allowed to burn within the allowable area, suppression actions will be taken to prevent fire from significantly impacting riparian resources.
Air Quality	Smoke from the prescribed burn may slightly diminish air quality for a short time period when burning operations are being conducted. This impact will be localized and not effect people or other resources.	The proposed action will be conducted under atmospheric conditions that will promote air pollutant dispersion and will not adversely affect people and other resources.

DECISION/RATIONALE: It is my decision to approve implementation of the White River Boies Prescribed Fire project as described in the proposed action. The proposed action will increase the suitable extent of sage-grouse habitat by substantially reducing the PJ component in the sagebrush communities found within unit B and preempt the progressive conversion of this former sagebrush disclimax to a pinyon/juniper woodland site. This project will also result in reduced fuel loading and risk of large-scale wildfire event that could threaten lives, property, and

cause significant long-term ecosystem degradation. The proposed action will also result in greater latitude in managing future wildland and prescribed fire in the vicinity of the project and help improve the overall health of the ecosystem. This action is in compliance with decisions in the White River ROD/RMP, the White River Fire Management Plan and environmental impacts are expected to be minimal.

MITIGATION MEASURES: See Proposed Action

COMPLIANCE/MONITORING:

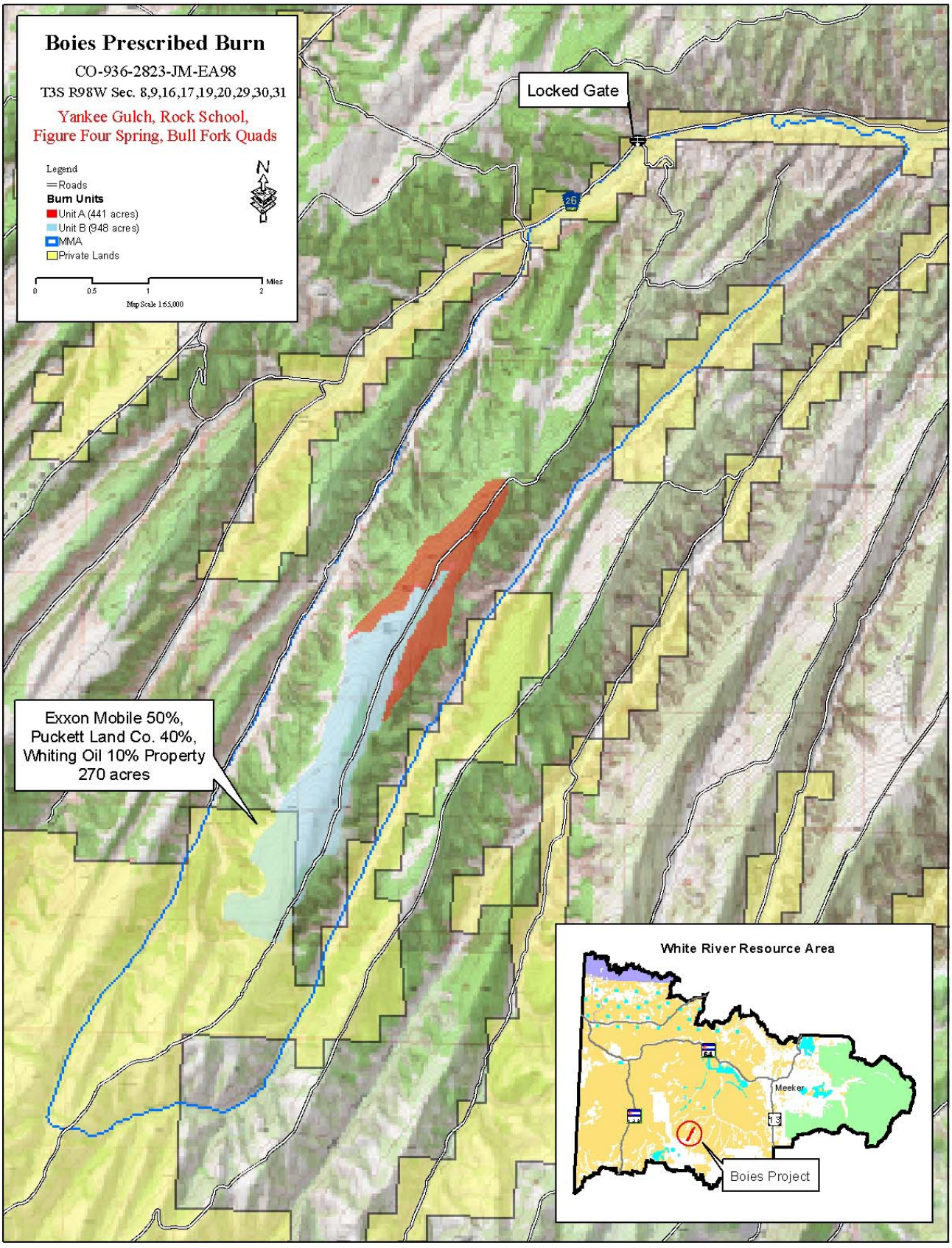
NAME OF PREPARER: Ken Holsinger, Natural Resource Specialist

NAME OF ENVIRONMENTAL COORDINATOR: Caroline Hollowed

SIGNATURE OF AUTHORIZED OFFICIAL: Kent C. Walter
Field Manager

DATE SIGNED: 2/23/05

ATTACHMENTS: Map depicting project location.


Boies Prescribed Burn
CO-936-2823-JM-EA98
T3S R98W Sec. 8,9,16,17,19,20,29,30,31
Yankee Gulch, Rock School,
Figure Four Spring, Bull Fork Quads
Legend
Roads
Burn Units
Unit A (441 acres)
Unit B (948 acres)
MMA
Private Lands
N
0
0.5
1
2
Miles
Map Scale 1:65,000
Locked Gate
Exxon Mobile 50%,
Puckett Land Co. 40%,
Whiting Oil 10% Property
270 acres
White River Resource Area
Meeker
Boies Project